

INTERNATIONAL SEARCH REPORT

International Application No

PCT/EP2004/006182

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 E21B7/20

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 E21B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 503 236 A (TIBBITTS GORDON A) 2 April 1996 (1996-04-02) column 11, lines 40-49 column 12, lines 6-8 figure 8	1-8, 19, 20, 22-24
A	US 4 226 288 A (COLLINS JR EARL R) 7 October 1980 (1980-10-07) figure 10	1
A	US 5 135 060 A (IDE RUSSELL D) 4 August 1992 (1992-08-04) figures 13-15	1
A	US 2002/134586 A1 (BAIRD BILLY CARR) 26 September 2002 (2002-09-26) the whole document	1



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

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P document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

& document member of the same patent family

Date of the actual completion of the international search

5 August 2004

Date of mailing of the international search report

17/08/2004

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Information on patent family members

International Application No

PCT/EP2004/006182

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 5503236	A	02-04-1996	BE 1012191 A5 GB 2281577 A , B US 5595254 A US 5671816 A	04-07-2000 08-03-1995 21-01-1997 30-09-1997
US 4226288	A	07-10-1980	NONE	
US 5135060	A	04-08-1992	CA 2061784 A1 DE 4206974 A1 GB 2253462 A	07-09-1992 10-09-1992 09-09-1992
US 2002134586	A1	26-09-2002	US 2002020562 A1 US 6378629 B1 US 2004007391 A1 US 2002108787 A1	21-02-2002 30-04-2002 15-01-2004 15-08-2002